

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 September 2005 (09.09.2005)

PCT

(10) International Publication Number
WO 2005/082951 A1

- (51) International Patent Classification⁷: **C08F 4/64**, 4/654, 10/00, 4/10, B01J 31/00
- (74) Agent: **WONJON PATENT FIRM**; 8th Floor, Poonglim Bldg., 823-1, Yeoksam-dong, Gangnam-gu, Seoul, 135-784 (KR).
- (21) International Application Number: **PCT/KR2004/002640**
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 15 October 2004 (15.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10-2004-0013469
27 February 2004 (27.02.2004) KR
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **SAM-SUNG TOTAL PETROCHEMICALS CO., LTD.** [KR/KR]; 411-1, Dokgod-ri, Daesan-up, Seosan-shi, Chungcheongnam-do, 356-711 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **YANG, Chun-Byung** [KR/KR]; Expo Apt. 211-202, Jeonmin-dong, Yuseong-gu, Daejeon, 305-761 (KR). **CHANG, Ho-Sik** [KR/KR]; Expo Apt. 103-1005, Jeonmin-dong, Yuseong-gu, Daejeon, 305-761 (KR).
- Published:**
— with international search report
— with amended claims
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: PREPARATION METHOD OF SOLID TITANIUM CATALYST FOR OLEFIN POLYMERIZATION

(57) Abstract: The present invention relates to a preparation method of a solid titanium catalyst for olefin polymerization. Particularly, the present invention relates to a preparation method of a solid titanium catalyst for olefin polymerization, which comprises the steps of: (1) preparing a magnesium compound solution by dissolving a magnesium halide compound into a mixed solvent of a cyclic ether and one or more of alcohol; (2) preparing a carrier by adding a mixture of titanium compound and halogenated hydrocarbon to the magnesium compound solution at low temperature and then elevating the temperature of the resulted solution for reaction; and (3) preparing a solid titanium catalyst by reacting the carrier with a titanium compound and an electron donor. According to the method of the present invention, it is possible to obtain a catalyst for olefin polymerization having high polymerization activity and well-controlled particle shape and size with high catalyst production yield, and producing polymers with high stereoregularity and high bulk density when used in olefin polymerization.